(1) Except as noted in point (2) below, each Claim shown in Appendix B as "currently amended" has been amended to conform its language to that of the Claim having the same number in the "parent" application, 09/381,879, which the Office has now allowed. The history, reasons, and support for those amendments may be found in the prosecution file of the parent '879 application, and will not be repeated in the interest of brevity -- unless, of course, the Office should request otherwise. By conforming the Claim language in the present application as much as possible to what has now been allowed in the parent application, it is hoped that prosecution of the present application may be expedited. A few additional minor, conforming (non-substantive) changes in Claim language have also been made. Note that the Claim numbers in the present application correspond to the Claims having the same numbers in the parent 09/381,879 application, which may differ from the revised Claim numbers eventually to appear in the patent to issue from the '879 application.

(2) All independent Claims have also been amended to refer (for example) to a "DNA sequence encoding a peptide, wherein said peptide comprises a first domain and a second domain . . ." as recited -- rather than referring to a "compound comprising a first domain and a second domain . . ." as recited. Conforming changes have been made throughout the Claims as appropriate. Basis for these amendments is found, for example, in the specification at page 11, line 19 through page 12, line 13, and in Claims 46, 42, 41, and 31 as originally filed. In addition, references in the Claims to hormones that are not peptides, and that therefore cannot be directly encoded by a DNA sequence (e.g., estrogen, testosterone) have been deleted from the Claims where appropriate.

(3) New Claims 129-133 have been added. Basis for these amendments is found, for example, in the specification at page 11, line 19 through page 12, line 13, and in Claims 46, 42, 41, and 31 as originally filed. In particular, additional basis for Claim 132 is found in U.S. patent 5,719,055, which is cited at page 12, lines 12-13

of the current specification, and which is expressly incorporated by reference in the present specification at page 43, lines 1-2. See, e.g., Claim 1 of the '055 Patent. See also M.P.E.P. § 608.01(p), subpart (I)(A), first paragraph under the heading "*A. Review of Applications Which Are to Issue as Patents*." As explained there, even so-called "essential material" may be incorporated by reference to an issued U.S. patent.

Claims 1-8, 11-14, 17, 31-41, 48, 59-70, 73-76, 79, 83, 86-87, 105-114, 116, 118, 120, and 122-133 remain in the application.

The filing fees were calculated based upon the Claims remaining after entry of this Preliminary Amendment.

Information Disclosure Statement

The Office's attention is respectfully directed to the enclosed Information Disclosure Statement, and the accompanying Information Disclosure Citation. As permitted by 37 C.F.R. § 1.98(d), copies of the cited references are not enclosed, and may instead be found in the file of the "parent" application, S.N. 09/381,879. The Office is respectfully requested to return an initialed copy of the enclosed Information Disclosure Citation with the next communication concerning the merits of the application.

Terminal Disclaimer

The Office's attention is respectfully directed to the enclosed Terminal Disclaimer. The Terminal Disclaimer should make moot any questions that might otherwise arise concerning a hypothetical obviousness-type double patenting rejection or provisional rejection over the patents and patent applications described in the Terminal Disclaimer.

Express Mail No. EK968023021

The Sequence Listings

The Office's attention is respectfully directed to the enclosed "Cross-Reference under 37 C.F.R. § 1.821(e); and Statement under 37 C.F.R. §§ 1.821 (f) & (g)." It is respectfully submitted that the Office's rules concerning sequence listings have been fully satisfied.

Brief Remarks Concerning Patentability

It is respectfully submitted that all Claims should be in condition for prompt allowance in light of their close relationship to the Claims that have already been fully examined and allowed in the "parent" case, S.N. 09/381,879.

As discussed above, the enclosed Terminal Disclaimer and the enclosed Cross Reference under 37 C.F.R. § 1.821(e) should fully address any questions that might otherwise be raised concerning double patenting, or concerning sequence listing formalities.

As discussed above, the language of all Claims, except the four "new" Claims, has been modeled closely on the language of the Claims as allowed in the "parent" case, S.N. 09/381,879.

The Office determined that all Claims in the parent case satisfied the requirements of 35 U.S.C. § 112, first paragraph concerning an adequate disclosure. As discussed above, the limitations being added to the "currently amended" Claims, as well as the limitations of the four "new" Claims, are fully supported by the specification. It therefore follows that the present Claims should be found to satisfy the requirements of 35 U.S.C. § 112, first paragraph.

The Office determined that all Claims in the parent case satisfied the requirements of 35 U.S.C. § 112, second paragraph concerning definiteness. Since the language of the

Claims as allowed in the parent case has been followed in the present application as much as possible, it is believed that the language of the present Claims should be found to be definite as well. It is also believed that the "new" limitations of the "currently amended" Claims, and all limitations of the "new" Claims should be considered definite as well. If the Examiner should nevertheless identify any minor objections to the Claim language, objections that might be readily resolved over the telephone, the undersigned would welcome a telephone call from the Examiner to discuss any such objections before a formal written action is prepared.

The Office determined that all Claims in the parent case satisfied the requirements of 35 U.S.C. §§ 102 and 103 concerning novelty and nonobviousness. It logically follows that the Claims in the present case are novel and nonobvious as well. The principal change from the Claims of the parent case to the corresponding pending Claims of the present case was to replace earlier limitations directed to certain peptides with the current limitations directed to DNA sequences encoding those same peptides. If a peptide is novel and nonobvious, then it is almost a logical necessity that a DNA sequence encoding that peptide will be novel and nonobvious as well. (While one can imagine the possible existence of peculiar circumstances where such a conclusion might not hold, no such peculiar circumstances are present here.)

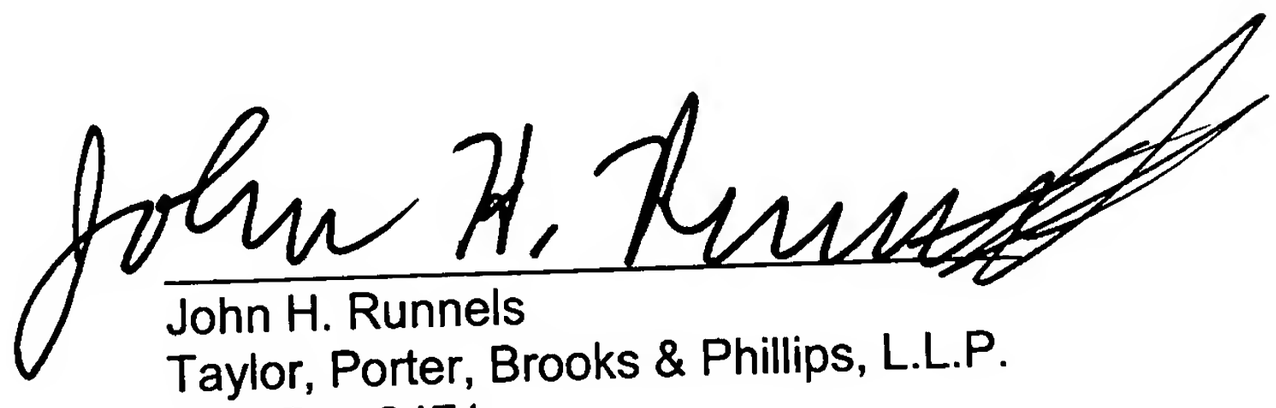
Aside from the principal change described in the preceding paragraph, all other substantive claim amendments are narrowing -- e.g., removing non-peptide hormones from a list of alternative limitations, or adding new dependent Claims with further limitations. If a broader Claim is novel and nonobvious, then it logically follows that the narrower Claim must necessarily be novel and nonobvious as well.

It is respectfully submitted that all pending claims are patentable, in view of their close relationship to the allowed Claims in the parent application.

Conclusion

Allowance of all pending Claims at an early date is respectfully requested.

Respectfully submitted,



John H. Runnels
Taylor, Porter, Brooks & Phillips, L.L.P.
P.O. Box 2471
Baton Rouge, LA 70821
(225) 381-0257

Registration No. 33,451

July 11, 2003

Express Mail No. EK968023021

Appendix A: Amendment to the Specification

(presented in accordance with the January 31, 2003 Pre-OG Notice found at http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/revamdtprac.htm)

Please amend the paragraph appearing at page 1, lines 9 to 15, as follows:

This application is a continuation of application S.N. 09/381,879, 35 U.S.C. § 371 date September 24, 1999, now allowed with the issue fee paid; which is the United States national stage of international application PCT/US98/06114, international filing date March 27, 1998; which claims the benefit of the filing dates of three provisional patent applications under 35 U.S.C. § 119(e): S.N. 60/041,009, filed March 27, 1997, S.N. 60/092,112, filed June 4, 1997, and S.N. 60/057,456, filed September 3, 1997. ~~The benefit of the March 27, 1997 filing date of provisional application serial number 60/041,009 and of the September 3, 1997 filing date of provisional application 60/057,456 are claimed under 35 U.S.C. § 119(e) in the United States, and are claimed under applicable treaties and conventions outside the United States. The benefit of the June 4, 1997 filing date of United States non-provisional application 08/869,153 is claimed under 35 U.S.C. § 120 in the United States, and is claimed under applicable treaties and conventions outside the United States.~~

Appendix B: Amendments to the Pending Claims

(presented in accordance with the January 31, 2003 Pre-OG Notice found at http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/revamdtprac.htm)

1. (currently amended) A DNA sequence encoding a peptide, wherein said peptide comprises ~~compound comprising~~ a first domain and a second domain, wherein: **(a)** ~~a hormone domain~~ said first domain comprises a hormone selected from the group consisting of gonadotropin-releasing hormone, lamprey III luteinizing hormone releasing hormone (l-LHRH-III), beta chain of luteinizing hormone (bLH), ~~estrogen, testosterone,~~ luteinizing hormone, chorionic gonadotropin, the beta subunit of chorionic gonadotropin, follicle stimulating hormone, melanocyte-stimulating hormone, ~~estradiol, dopamine,~~ somatostatin, and analogues of these hormones; and **(b)** ~~a lytic peptide~~ said second domain comprises a lytic peptide, wherein said lytic peptide comprises from 10 to 39 amino acid residues, is basic, and will form an amphipathic alpha helix.

2. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said ~~hormone~~ first domain is bonded directly to said ~~lytic peptide~~ second domain, without an intermediate linking domain joining said ~~hormone domain to said lytic peptide domain.~~ first and second domains.

3. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said lytic peptide ~~domain~~ is selected from the group consisting of a cecropin peptide, a melittin peptide, a defensin peptide, a magainin peptide, a sarcotoxin peptide, and analogs of said peptides.

4. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said lytic peptide ~~domain~~ comprises hecate.

5. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said hormone ~~domain~~ comprises I-LHRH-III.

6. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said hormone ~~domain~~ comprises gonadotropin-releasing hormone.

7. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said ~~compound has~~ DNA sequence encodes a peptide having the sequence ~~SEQ. ID NO.~~ SEQ ID NO: 3 or ~~SEQ. ID NO.~~ SEQ ID NO: 4.

8. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said ~~compound has~~ DNA sequence encodes a peptide having the sequence ~~SEQ. ID NO.~~ SEQ ID NO: 12 or ~~SEQ. ID NO.~~ SEQ ID NO: 15.

9 - 10. (canceled)

11. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said hormone ~~domain~~ comprises luteinizing hormone.

12. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said hormone ~~domain~~ comprises chorionic gonadotropin or the beta subunit of chorionic gonadotropin.

13. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said hormone ~~domain~~ comprises follicle stimulating hormone.

14. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said hormone ~~domain~~ comprises melanocyte-stimulating hormone.

15 - 16. (canceled)

17. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said hormone ~~domain~~ comprises somatostatin.

18 - 30. (canceled)

31. (currently amended) A method for ~~producing long-term contraception or sterility~~ decreasing fertility in an animal, comprising administering to the animal an effective amount of a DNA sequence encoding a peptide, wherein said peptide comprises ~~compound comprising~~ a first domain and a second domain; wherein said first domain comprises a hormone ~~a hormone domain and a lytic peptide domain, wherein said hormone domain is~~ selected from the group consisting of gonadotropin-releasing hormone, lamprey III luteinizing hormone releasing hormone (l-LHRH-III), the beta subunit of chorionic gonadotropin, ~~and~~ the beta chain of luteinizing hormone (bLH), and analogs of these hormones; and wherein said second domain comprises a lytic peptide; wherein the lytic peptide comprises from 10 to 39 amino acid residues, is basic, and will form an amphipathic alpha helix.

32. (currently amended) A method as recited in Claim 31, wherein the ~~hormone~~ first domain is bonded directly to the ~~lytic peptide~~ second domain, without an intermediate linking domain joining the ~~hormone domain to the lytic peptide domain~~ first and second domains.

33. (currently amended) A method as recited in Claim 31, wherein the lytic peptide ~~domain~~ is selected from the group consisting of a cecropin peptide, a melittin peptide, a defensin peptide, a magainin peptide, a sarcotoxin peptide, and analogs of said peptides.

34. (currently amended) A method as recited in Claim 31, wherein the lytic peptide ~~domain~~ comprises hecate.

35. (currently amended) A method as recited in Claim 31, wherein the ~~compound has~~ DNA sequence encodes a peptide having the sequence ~~SEQ. ID NO.~~ SEQ ID NO: 3.

36. (currently amended) A method as recited in Claim 31, wherein the ~~compound has~~ DNA sequence encodes a peptide having the sequence ~~SEQ. ID NO.~~ SEQ ID NO: 4.

37. (currently amended) A method as recited in Claim 31, wherein the ~~compound has~~ DNA sequence encodes a peptide having the sequence ~~SEQ. ID NO.~~ SEQ ID NO: 12 or ~~SEQ. ID NO.~~ SEQ ID NO: 15.

38. (original) A method as recited in Claim 31, wherein the animal is a mammal.

39. (original) A method as recited in Claim 31, wherein the animal is a bird.

40. (original) A method as recited in Claim 39, wherein the bird is a chicken or a turkey.

41. (original) A method as recited in Claim 31, wherein the animal is an insect.

42 - 47. (canceled)

48. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent or ligand-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a DNA sequence encoding a peptide, wherein said peptide comprises ~~compound comprising~~ a first domain and a second domain, wherein: **(a)** the first domain comprises the hormone or ligand on which the growth of the tumor depends; and **(b)** the second domain comprises a lytic peptide, wherein said lytic peptide comprises from 10 to 39 amino acid residues, is basic, and will form an amphipathic alpha helix. ~~, and an effective amount of a lytic peptide.~~

49 - 58. (canceled)

59. (currently amended) A method as recited in Claim 48, wherein the cell is part of a pituitary adenoma, and wherein the hormone or ligand is selected from the group consisting of gonadotropin-releasing hormone, lamprey III luteinizing hormone releasing hormone (l-LHRH-III), corticosteroid-releasing hormone, growth hormone-releasing hormone, vasoactive intestinal polypeptide, and pituitary adenylate cyclase activating peptide, and analogs of those hormones and peptides.

60. (currently amended) A method as recited in Claim 48, wherein the cell is part of a breast cancer, and wherein the hormone or ligand comprises gonadotropin-releasing hormone ~~or~~, lamprey III luteinizing hormone releasing hormone (l-LHRH-III), the beta subunit of chorionic gonadotropin, ~~or~~ beta chain of luteinizing hormone (bLH), or an analog of one of those hormones.

61. (currently amended) A method as recited in Claim 48, wherein the cell is part of an ovarian cancer, and wherein the hormone or ligand comprises gonadotropin-releasing hormone, lamprey III luteinizing hormone releasing hormone (l-LHRH-III), the beta subunit of chorionic gonadotropin, ~~or~~ beta chain of luteinizing hormone (bLH), or an analog of one of those hormones.

62. (currently amended) A method as recited in Claim 48, wherein the cell is part of a prostate cancer, and wherein the hormone or ligand comprises gonadotropin-releasing hormone ~~or~~, lamprey III luteinizing hormone releasing hormone (l-LHRH-III), the beta subunit of chorionic gonadotropin, ~~or~~ beta chain of luteinizing hormone (bLH), or an analog of one of those hormones.

63. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 1, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

64. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 2, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

65. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 3, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

66. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 4, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

67. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 5, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

68. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 6, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

69. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 7, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

70. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 8, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

71 -72. (canceled)

73. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 11, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

74. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 12, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

75. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 13, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

76. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 14, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

77 -78. (canceled)

79. (currently amended) A method for killing or inhibiting the growth of a cell in a hormone-dependent tumor in a mammal, comprising administering to the mammal an effective amount of a ~~compound~~ DNA sequence as recited in Claim 17, wherein the ~~hormone~~ first domain ~~of the compound~~ comprises the hormone on which the tumor is dependent, or an analog of that hormone.

80 - 82. (canceled)

83. (currently amended) A method for killing or inhibiting the growth of a cell in a mammal, wherein the activity of the cell is dependent on the binding of a receptor on the cell surface to a ligand, said method comprising administering to the mammal an effective amount of a DNA sequence encoding a peptide, wherein said peptide comprises a first domain and a second domain, wherein: **(a)** the first domain comprises the ligand on which the activity of the cell depends, and ~~an effective amount of a lytic peptide.~~ **(b)** the second domain comprises a lytic peptide, wherein said lytic peptide comprises from 10 to 39 amino acid residues, is basic, and will form an amphipathic alpha helix.

84 - 85. (canceled)

86. (original) A method as recited in Claim 83, wherein the cell is a lymphocyte responsible for an autoimmune reaction, and wherein the ligand comprises an epitope to which the lymphocyte selectively binds.

87. (original) A method as recited in Claim 83, wherein the cell is a virally-infected cell that displays a surface receptor not displayed by otherwise similar, but uninfected cells, and wherein the ligand selectively binds to the surface receptor.

88 - 104. (canceled)

105. (original) A method as recited in Claim 38, wherein the mammal is a dog.

106. (original) A method as recited in Claim 38, wherein the mammal is a cat.

107. (original) A method as recited in Claim 38, wherein the mammal is a cow or bull.

108. (original) A method as recited in Claim 38, wherein the mammal is a pig.

109. (original) A method as recited in Claim 38, wherein the mammal is a horse.

110. (original) A method as recited in Claim 38, wherein the mammal is a sheep.

111. (original) A method as recited in Claim 38, wherein the mammal is a human.

112. (original) A method as recited in Claim 31, wherein the animal is a mollusc.

113. (original) A method as recited in Claim 112, wherein the mollusc is a zebra mussel.

114. (original) A method as recited in Claim 112, wherein the mollusc is an oyster.

115. (canceled)

116. (currently amended) A method for selectively ~~killing~~ reducing the number of viable gonadotrophic cells in the pituitary of an animal, comprising administering to the animal an effective amount of a DNA sequence encoding a peptide, wherein said peptide comprises ~~compound comprising~~ a first domain and a second domain, wherein: **(a)** the first domain comprises a hormone ~~a hormone domain and a lytic peptide domain, wherein said hormone domain is~~ selected from the group consisting of gonadotropin-releasing hormone, ~~and~~ lamprey III luteinizing hormone releasing hormone (l-LHRH-III), the beta subunit of chorionic gonadotropin, the beta chain of luteinizing hormone (bLH), and analogs of these hormones; and **(b)** the second domain comprises a lytic peptide; wherein the lytic peptide comprises from 10 to 39 amino acid residues, is basic, and will form an amphipathic alpha helix.

117. (canceled)

118. (currently amended) A method for selectively ~~killing~~ reducing the number of viable neurons having gonadotrophic receptors in an animal, comprising administering to the animal an effective amount of a DNA sequence encoding a peptide, wherein said peptide comprises ~~compound comprising~~ a first domain and a second domain, wherein: **(a)** the first domain comprises a hormone ~~a hormone domain and a lytic peptide domain, wherein said hormone domain is~~ selected from the group consisting of gonadotropin-releasing hormone, ~~and~~ lamprey III luteinizing hormone releasing hormone (l-LHRH-III), the beta subunit of chorionic gonadotropin, the beta chain of luteinizing hormone (bLH), and analogs of these hormones; and **(b)** the second domain comprises a lytic peptide; wherein the lytic peptide comprises from 10 to 39 amino acid residues, is basic, and will form an amphipathic alpha helix.

119. (canceled)

120. (currently amended) A method as recited in Claim 31, wherein the animal is sexually immature when the DNA sequence is administered, and wherein, as a result, the fertility of the animal is decreased at a time when the animal would otherwise be sexually mature.

121. (canceled)

122. (currently amended) A method as recited in Claim 38, wherein the mammal is sexually immature when the DNA sequence is administered, and wherein, as a result, the fertility of the mammal is decreased at a time when the mammal would otherwise be sexually mature.

123. (currently amended) A method as recited in Claim 48, wherein the cell is part of an ovarian cancer, and wherein the hormone or ligand comprises lamprey III luteinizing hormone releasing hormone (l-LHRH-III), or an analog of that hormone.

124. (currently amended) A method as recited in Claim 48, wherein the cell is part of a prostatic cancer, and wherein the hormone or ligand comprises lamprey III luteinizing hormone releasing hormone (l-LHRH-III), or an analog of that hormone.

125. (currently amended) A method as recited in Claim 48, wherein the cell is part of a breast cancer, and wherein the hormone or ligand comprises lamprey III luteinizing hormone releasing hormone (l-LHRH-III), or an analog of that hormone.

126. (currently amended) A method as recited in Claim 48, wherein the cell is part of an endometrial cancer, and wherein the hormone or ligand comprises lamprey III luteinizing hormone releasing hormone (l-LHRH-III), or an analog of that hormone.

127. (currently amended) A ~~compound~~ DNA sequence as recited in Claim 1, wherein said ~~hormone~~ first domain comprises bLH or the beta subunit of chorionic gonadotropin, or an analog of one of those hormones.

128. (currently amended) A method as recited in Claim 48, wherein the cell is part of a testicular cancer, and wherein the hormone or ligand comprises gonadotropin-releasing hormone, lamprey III luteinizing hormone releasing hormone (l-LHRH-III), the beta subunit of chorionic gonadotropin, or beta chain of luteinizing hormone (bLH), or an analog of one of those hormones.

129. (new) A cell containing a DNA sequence as recited in Claim 1.

130. (new) A cell as recited in Claim 129, wherein said cell is a hematopoietic stem cell or myeloid precursor cell.

131. (new) A DNA sequence as recited in Claim 1, wherein said DNA sequence is operatively linked to an acute-phase responsive promoter.

132. (new) A vector for inserting a DNA sequence as recited in Claim 1 into a chromosome of a eukaryotic cell, comprising:

(a) a gene encoding a bacterial transposase;

(b) two transposon insertion sequences recognized by the transposase;

(c) a DNA sequence as recited in Claim 1, wherein said DNA sequence is between the two transposon insertion sequences; and

(d) a promoter that is operably linked to said transposase gene;

wherein one of said insertion sequences is located between said transposase gene and said DNA sequence; and where the transposase expressed by said transposase gene will excise from said vector a fragment comprising the two transposon insertion sequences and said DNA sequence between the two transposon insertion sequences, and will insert the excised fragment into a chromosome of a eukaryotic cell.

133. (new) A vector as recited in Claim 132, wherein said DNA sequence is operatively linked to an acute-phase responsive promoter.